An Economical Analysis of Crop Insurance Scheme
(With a special reference to Latur district)

Synopsis

Submitted to the

Swami Ramanand Teerth Marathwada University, Nanded

For the award of degree of

DOCTOR OF PHILOSOPHY IN THE SUBJECT OF COMMERCE

Under The Faculty of Commerce & Management

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2013

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- **INTRODUCTION**

India ranks second worldwide in farm output. Agriculture and allied sectors like forestry, logging and fishing accounted for 17 percent of the GDP. At the time of independence, more than half of the national income was contributed by farming. At the same time, more than 70 percent of total population was depended on farm. Still, more people in India make money for their livelihood from this sector than from all other economic sectors put together. In rural India, households that depend on income from agriculture (either self-employed or as agricultural labour) accounted from nearly 70 percent of the total population and employed 51% of the total workforce in 2012. Seventy five percent of all rural poor are in households that are dependent on farming, in some way or other. All these facts show the need for the development of agricultural sector in India.

Agriculture plays an important role in the economic as well as rural development of India. Agriculture sector contributing 17.9 percent (2014) to the National Gross Domestic Product (GDP) is one of the largest sectors of the Indian economy and an important part of overall socio-economic development of India.

Agricultural production is an outcome of biological activity, which is highly sensitive to changes in weather but crop insurance support to minimize risk involved in the crop production. The main purpose of study is to review an economical analysis of crop insurance scheme in Latur district,

with that to find out the remedies and to develop the new alternative model for crop insurance schemes.

- **Insurance**

Insurance is the transfer of risk among the insured and the insurer at a cost, which reduces the intensity of loss that would have otherwise been suffered by the insured. Insurance not only reduces the uncertainty faced by the insured, but it even minimizes the burden of a loss especially if the loss is of a large-scale one.

- **Crop Insurance**

Crop insurance refers to an insurance which insures farmers and crop producers against the loss of crops due to natural disasters, such as hail drought, floods, fire, storm, hailstorm and diseases.

- **Significance and Importance of Crop Insurance**

Insurance of crops is regarded as an essential part of a well-rounded agricultural program designed to provide security to farmers in opposition to physical failure of crop due to weather and other unavoidable natural hazards. The principal benefits derived from crop insurance are as financial disaster due to crop failure, increasing creditably, stabilizing farmer's income by indemnifying them for damage to their crops, stability of the economy by spreading economic damage resulting from crop losses over time and space etc.

- **Crop Insurance in India**

The question of introduction of crop insurance in India was taken up for examination soon after independence in 1947. A special study to work out modalities of crop insurance was commissioned in 1947-48 following an assurance given by the ministry of Food and Agriculture to introduce crop and cattle insurance in the country. The first aspect regarding the modalities of crop insurance considered was whether it should be on individual approach or Homogeneous Area Approach (HAA).

In October 1965, the Central Government introduced a Crop Insurance Bill and circulated a model scheme of crop insurance on compulsory basis to constituent state governments for their views. On receiving the responses of State Governments, the subject was considered in detail by an Expert Committee headed by the then chairman, Agricultural Price Commission set up in July 1970 for full examination of the economic, administrative, financial and actuarial implications of the subject different experiments on crop insurance on a limited, ad hoc and scattered scale stared in 1972-73.

After that the government of India introduces lot of scheme for crop insurance i.e. Pilot Crop Insurance Scheme (PCIS)-1979, Comprehensive Crop Insurance Scheme (CCIS)-1985, Experimental Crop Insurance Scheme (ECIS)-1997-98, Pilot Project On Farm Income Insurance Scheme (FIIS) (2003-2004), Sookha Suraksha Kavach (Drought Risk Insurance), National Agricultural Insurance Scheme-1999-2000, Weather Based Crop Insurance Scheme-2003,Varsha Bima-2005, Rabi Weather Insurance, Wheat Insurance Policy etc.

- **OBJECTIVES OF THE STUDY**

The objectives of the study are mentioned as follows;

1) To study about the crop insurance scheme in Latur District.
2) To examine the extent of crop wise coverage of insurance scheme in Latur District.
3) To identify and analyze the risks involved in crop production and marketing.
4) To analyze season wise, premium collected and indemnity paid under insurance scheme.
5) To elicit the opinion of the insured and non-insured farmers about crop insurance scheme.
6) To formulate alternative model for crop insurance scheme.

- **HYPOTHESIS OF STUDY**

The following hypothesis has been framed based on the objectives of the study:

a) The premium collected and indemnity paid was more in Kharif season.
b) There are more risks involved in the crop production and marketing.
c) Farmers are having good opinion about crop insurance scheme.
d) The existing crop insurance scheme is having several limitations.

- **RESEARCH METHODOLOGY**

The present study deals with an economical analysis of crop insurance scheme i.e. National Agriculture Insurance scheme. This study proposes the crop insurance scheme in Latur district. The principal objective of the present study is to study the economical analysis of crop insurance scheme in Latur district. Its included risk involved in crop production, crop wise coverage, premium collection and indemnity paid under NAIS in Latur district.

For the sampling of research the multistage sampling method is applied. The samples for study were selected from insured and non-insured farmers, banks and Agriculture department.

the primary data through questionnaires and Interview method. Primary data was collected through questionnaires from 772 farmers out of which 398 were has insured and 374 non-insured (small, middle, large) farmers. 21 personal interviews were taken from experts working in Latur District Central Co-operative Bank (Head Office, Branch Offices), 2 Gramin banks (Head Office, Branch Offices), 3 National Bank (Head Office, Branch Offices) and 6 Agricultural Departments (Taluka Offices) of Latur district. The field survey was conducted in 2012 to 2016 at Latur district of Maharashtra state.

- **Crop Insurance scheme (NAIS) in Latur District**

In India 116 million farmers are cultivates rain-fed crops and depended on vagaries of the monsoon. In this position, farming risk management is critical importance, mainly for the marginal and small farmers.

During Rabi 1999-2000, this crop insurance scheme NAIS / RKBY was introduced in 9 States / Union Territories. They were in Assam, Goa, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Orissa and Pondicherry. NAIS was implementing in 17 in Kharif 2000 and got to 21 in Kharif 2002. On the other hand, well-to-do States like Punjab and Haryana preferred to stay out. States lick Rajasthan having large area under rain-fed farming also had a better opinion of not to join the scheme. At present NAIS is being implemented by 25 states & 2 Union Territories.

In Latur district of Maharashtra state, during Kharif-2000, crop insurance scheme (National Agriculture Insurance Scheme) was introduced. During Kharif 2004, season 1.32 lacks farmers and 2.80 lacks hectors of crop area covered under this scheme. After Kharif season 2005 to 2010, the number of farmers covered under NAIS increased slowly but after that decrease in 2011 to 2014. The 21.72 lacks total number of farmers covered under NAIS in kharif 2004 to 2014 and the area coverage 30.83 lacks hectares during this period. In kharif season 2009, more farmers, area insured and benefited under this scheme from compare to other kharif season. 7.83 lakcs Farmers benefited & 6.50 lacks hectors area was covered between kharif 2004 to 2014 & from these periods 5464.5 lacks claims paid to the faremrs in Latur district

- **Crops Covered Under NAIS / RKBY**

At the present time there are 35 different crops in Kharif and 30 different Rabi season are being insured under NAIS in the country.

- **Risks Covered and Exclusion sunder NAIS / RKBY**

NAIS make available comprehensive risk insurance agents the nature. It covers yield losses caused by non-avertable risks, they are;

1. Natural fire and lightning
2. Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado etc.
3. Flood, Inundation and Landslide
4. Drought and dry spells
5. Pests / Diseases etc.

- **Sum Insured / Limit of Coverage under NAIS / RKBY**

The Sum Insured may expand to the value of the threshold yield of the insured crop at the alternative of the insured farmer. On the other hand a farmer also has the alternative to give insurance his crop ahead of the value of threshold yield level (up to 150% of average yield) of the crop in the notified area on payment of premium at commercial / actuarial rates.

- **Premium Rates under NAIS / RKBY**

Table 4:- Premium Rate Charged Under NAIS / RKBY

Sr. No	Season	Crops	Premium Rate
1	Kharif	Bajra and Oilseeds	3.5% of Sum Insured or Actual rate whichever is less
		Other crops (cereals,	2.5% of SI or Actuarial rate

		other millets and pulses)	whichever is less
2	Rabi	Wheat	1.5% of SI or Actuarial rate whichever is less
		Other crops (other cereals, millets, pulses and oilseeds)	2% of SI or Actuarial rate whichever is less
3	Kharif and Rabi	Annual Commercial / Horticultural Crops	Actuarial Rates

- **Nature of Coverage and Indemnity**

If the 'Actual Yield' (AY) per hectare of the insured crop for the defined area [on the basis of requisite number of Crop Cutting Experiments (CCEs)] in the insured season, falls short of the specified 'Threshold Yield' (TY), all the insured farmers growing that crop in the defined area are deemed to have suffered shortfall in their yield. The Scheme seeks to provide coverage against such contingency.

'Indemnity' shall be calculated as per the following formula:

$$= \frac{\text{Shortfall in yield}}{\text{Threshold yield}} \times \text{Sum Insured for the farmers}$$

{Shortfall in Yield = 'Threshold Yield - Actual Yield' for the Defined Area}.

- **Financial Support towards Administration & Operating Expenses**

The Central Government of India and State Government, administration & operating expenses are shared equally on sunset basis i.e.

100% 1st year, 80% in 2nd year, 60% in 3rd year, 40% in 4th year, 20% in 5th year and zero thereafter.

- **Performance of the NAIS / RKBY in India**

In the beginning of Rabi season 1999-2000, only 9 States / UT participated in the National Agricultural Insurance Scheme but now 25 State & 2 UTs are participated. Initially, during Kharif 2000 season 8.41millon farmers and 13.22 million hectors of crop area covered under this scheme (Table 12). After Kharif season 2000, the coverage under NAIS increased slowly. The number of farmers covered under NAIS increased from 8.41 million farmers in kharif 2000 to 10.65 million by kharif 2014 and the area coverage reached 13.22 million hectares form 15.69 million hectares during this period. In kharif season 2009, more farmers & area were covered under this scheme from compare to other kharif season. 152.67 million Farmers & 231.21 million hectors area was covered between kharif 2000 to 2012 & from these period 39.66 million farmers (25.98%) were benefitted.

- **Agricultural Risk and Its Management**

Agricultural risks are made troubled with a difference of factors in India. They are beginning weather unpredictability and change, common natural disasters, uncertainties in agricultural output and prices, weak rural infrastructure, defective markets and lack of financial services as well as limited period and design of risk improvement instruments such as credit and insurance.

- **Strategies of Risk Management in Agriculture**

Strategies for managing risks in agriculture can be segmentation enthusiastic to those that reduce or mitigate risk or those for coping with risks. First, risks reducing i.e. ex-ante strategies are usually precautionary measures intentional at lower or minimize largely risk exposure. Finally, risk coping i.e. ex-post strategies involves measures to assist in dealing with the impacts of risk once an unfavourable event has occurred

- **Scope and Limitation of the Study**

The scope and limitations of study are as follows.

1) The scope of the study is confined to understand the crop insurance scheme in Latur district specially NAIS.
2) Further study covers the evaluation of crop insurance scheme.
3) The study will also cover the performance aspects of the schemes for the overall development of the agricultural sector.
4) The study period is limited to 10 years (i.e. 2004-2014)
5) The study is limited to the economical analysis of crop insurance scheme (NAIS) in Latur district.
6) The sample survey of research study is based on sample size of villages (10% of total villages) form 10 Talukas of Latur district.
7) The filed survey is conducted in 2012 to 2016 at Latur district.

Even though these limitations and scopes of the study are attempt is to be given to maintain the quality of research work.

- **Chapter Plan of the Present Study**:

The study is structured into six chapters organized to present the study utilizing a methodology that allows it to flow from a basic introduction to empirical findings Table 3.

Table 3:- Chapter Plan of the Present Study

Chapter –I	Introduction of Research Topic
Chapter –II	Crop Insurance scheme in Latur district
Chapter -III	Risk Involve in crop production and marketing

Chapter-IV	Season wise premium collection and indemnity Paid under insurance scheme
Chapter –V	Survey report analysis
Chapter -VI	Conclusions and suggestions

Chapter 1- Introduction of Research Topic

Chapter first introduces the Research study and sets the focus and direction to be taken for an empirical study exploring nominally researched or unresearched areas of agriculture insurance. The chapter focuses on giving an overview of the study's development, explanation of the research methodology i.e. design development of questionnaires, data collection and analysis and examines literature in the area of crop insurance.

Chapter 2- Crop Insurance Scheme in Latur District

Chapter second describes in detail profile of Latur district and crop insurance scheme (National Agricultural Insurance Scheme) & Performance of NAIS in Maharashtra state especially in Latur district.

Chapter 3- Risks involve in crop production and marketing

Chapter third describes in detail about explanation of the major risk in agricultural i.e. production and marketing risks & its management in Latur district. It also includes types of risk in an agricultural sector, mechanisms or strategies made for risks and so on discussed in this chapter.

Chapter 4-Season Wise premium collection and indemnity paid under insurance scheme

Chapter fourth examined the season wise premium collected and indemnity paid under insurance scheme (NAIS) in Maharashtra especially in Latur district. This chapter described in detail with analysis of secondary data about season wise premium collection and indemnity paid under crop insurance scheme in Latur district.

Chapter -5 Survey report Analysis

Chapter fifth delves into the research findings of the study on the basis of various statistical tools and techniques used for analysis and interpretation of survey report. As per the objective's researcher has analyzed the data.

Chapter-6 conclusions and suggestions

Chapter sixth aims to present the conclusions on major findings and policy implications and also suggest changes in working of crop insurance scheme (NAIS) to make it more effective in order to increase their scope and coverage and model plans.

At last described the bibliography of research, it contains list of books, list of journals, list of magazines & other secondary data items & list of websites.

- **Scope of Future Research**

a) To design new crop insurance scheme to minimize risk in agriculture for farmers.

b) At the present time, there are limited reinsurance practices for agriculture insurance, though a lot of work has been done on technical issues lick assessment through remote sensor technology and use of it in crop insurance to better implementation.

c) To deep study on Pradhan Mantri Fasal Bima Yojana (PMFBY) to proper implementation.
d) To analyze Performance of Pradhan Mantri Fasal Bima Yojana in Maharashtra state.

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